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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/691,874

10/19/2000

James A. Proctor JR.

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EXAMINER

DAVIS, CYNTHIA L

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/691,874

Applicant(s)

PROCTOR, JAMES A.

Examiner

Cynthia L Davis

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/19/2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/18/2001</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claims 1-5, 7-9, 12, 13, 15-18, and 21 are rejected under 35 U.S.C. 102(a) as being anticipated by Engstrand (6671260).

Regarding claim 1, a method of timing channel allocation in a wireless communications unit is disclosed in Engstrand, figure 1. Identifying a plurality of channels operable for wireless communication with a remote wireless communications unit is disclosed in column 1, lines 16-19 (the slots are allocated into channels for each terminal). Scheduling the channels for wireless communication according to a predetermined cycle, wherein the remote wireless communications unit has a remote predetermined cycle out of phase with the predetermined cycle is disclosed in Engstrand, column 2, lines 32-45 (describing a system using a predetermined cycle that is out of phase by approximately the processing time of the remote terminal due to blocking).

Regarding claims 2 and 4, the wireless communication unit being a base station processor and the remote wireless communication unit being a subscriber access unit is disclosed in Engstrand, figure 1, elements 10 and 20.

Regarding claim 3, a system for allocating wireless channels in a wireless communication network is disclosed in Engstrand, figure 1. A wireless communication unit operable for wireless communication is disclosed in figure 1, element 10. At least one remote wireless communication unit operable for wireless communication with the wireless communication unit via a wireless link is disclosed in figure 1, element 20. A plurality of wireless channels in the wireless communication unit and in the at least one remote wireless communication unit is disclosed in column 3, lines 41-47 (the time slots are divided into channels for each remote wireless unit). A local scheduler operable to schedule the wireless channels in the wireless communication unit at a local predetermined cycle is disclosed in column 2, lines 32-45 (describing a system using a predetermined cycle). Claim 3 further discloses a remote scheduler operable to schedule the wireless channels in the remote wireless communication unit at a remote predetermined cycle, wherein the local predetermined cycle and the remote predetermined cycle are out of phase is disclosed in Engstrand, column 2, lines 32-45 (describing a system using a predetermined cycle that is out of phase by the processing time of the terminal; the blocking functionality acts as the remote scheduler).

Regarding claim 5, identifying at least one forward channel operable for wireless communication to a subscriber access unit is disclosed in column 3, lines 36-37. Identifying at least one reverse channel operable for wireless communication to a base station processor is disclosed in column 3, lines 42-44. Scheduling the forward channel for wireless communication according to a forward cycle is disclosed in column 2, lines 32-45 (describing a system using a predetermined cycle). Scheduling the reverse

channel for wireless communication according to a reverse cycle, wherein the forward cycle and the reverse cycle are out of phase is disclosed in column 2, lines 32-45 (describing a system using a predetermined cycle that is out of phase by the processing time of the terminal; the blocking functionality acts as the remote scheduler).

Regarding claims 7 and 15, the forward cycle corresponding to a forward interval, and the reverse cycle corresponding to a reverse interval is disclosed in column 2, lines 32-45 (both the forward and reverse transmissions are at regular intervals).

Regarding claims 8 and 17, the forward interval and the reverse interval being equal is disclosed in column 4, lines 28-31 (this would happen in the case of only one remote access unit).

Regarding claims 9 and 18, the forward interval and remote interval corresponding to an integral multiple is disclosed in column 4, lines 28-31 (this would happen in the case of multiple wireless access units running the same scheduled services).

Regarding claims 12 and 21, the forward interval and the reverse interval being an epoch is disclosed in column 4, lines 28-31 (an epoch is a regular interval).

Regarding claim 13, a system for wireless communication is disclosed in figure 1. A base station processor connected to a public access network and operable for wireless communication via a plurality of wireless channels is disclosed in figure 1, element 10. At least one subscriber access unit operable for wireless communication with the base station processor via the plurality of wireless channels is disclosed in figure 1, element 20. A scheduler operable to allocate the wireless channels for

wireless communication at a predetermined interval, wherein the scheduler is further operable to schedule the wireless channels for wireless communication to the subscriber access units according to a forward cycle, and to schedule the wireless channels for wireless communication to the base station processor according to a reverse cycle, such that the forward cycle and the reverse cycle are out of phase is disclosed in Engstrand, column 2, lines 32-45 (describing a system using a predetermined cycle that is out of phase by approximately the processing time of the remote terminal).

Regarding claim 16, each of the forward channels and each of the reverse channels being allocated for a predetermined duration based on the forward interval and the reverse interval is disclosed in column 4, lines 28-31.

Regarding claim 24, a system for allocating wireless channels in a wireless communication network is disclosed in Engstrand, figure 1. Means for identifying at least 1 forward channel operable for wireless communication to a subscriber access unit is disclosed in column 3, lines 36-37. Means for identifying at least one reverse channel operable for wireless communication to a base station processor is disclosed in column 3, lines 41-42. Means for scheduling the forward channel for wireless communication according to a forward cycle is disclosed in column 2, lines 32-45. Means for scheduling the reverse channel for wireless communication according to a reverse cycle, wherein the forward cycle and the reverse cycle are out of phase is disclosed in column 2, lines 32-45 (the blocking functionality acts to schedule the reverse channel).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6, 10, 11, 14, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engstrand.

Regarding claims 6 and 14, scheduling in the forward channel comprising scheduling by a forward scheduler in the base station processor is disclosed in column 2, lines 32-45. Claim 6 further discloses scheduling in the reverse channel comprising scheduling by a reverse scheduler in the subscriber access unit, which is not explicitly disclosed in Engstrand. However, in column 2, lines 32-45, the blocking functionality in the scheduler in the base station acts to schedule the transmissions from the subscriber access units. It would have been obvious to one skilled in the art at the time of the invention to move the remote scheduler from the base station to the subscriber access units. The motivation would be to decentralize the remote scheduling.

Regarding claims 10 and 19, the duration of the forward interval and reverse interval being between 26 and 27 ms is missing from Engstrand. However, 26.6667 ms is disclosed in the instant specification at page 6 to be the usual cycle time for a specific wireless protocol. It would have been obvious to one skilled in the art at the time of the invention to use 26.6667 ms as the cycle time. The motivation would be to be able to use a specific wireless protocol.

Regarding claims 11 and 20, the forward interval and reverse interval being between 13 and 14 ms out of phase is not explicitly stated in Engstrand. However, Engstrand does disclose, in column 2, lines 12-14, the amount by which the intervals are out of phase to be corresponding to the processing time of the remote terminal. It would have been obvious to one skilled in the art at the time of the invention to have the intervals out of phase by 13 to 14 ms. The motivation would be to work with a specific processing time.

3. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engstrand in view of Turner (6788689).

Regarding claim 22, means for identifying at least 1 forward channel operable for wireless communication to a subscriber access unit is disclosed in column 3, lines 36-37. Means for identifying at least one reverse channel operable for wireless communication to a base station processor is disclosed in column 3, lines 41-42. Means for scheduling the forward channel for wireless communication according to a forward cycle is disclosed in column 2, lines 32-45. Means for scheduling the reverse channel for wireless communication according to a reverse cycle, wherein the forward cycle and the reverse cycle are out of phase is disclosed in column 2, lines 32-45 (the blocking functionality acts to schedule the reverse channel). Claim 22 further specifies that all of these means are implemented in computer program code, which is missing from Engstrand. However, Turner discloses in column 5, line 56, and column 6, lines 5-14, computers being used to schedule packets in a wireless network. It would have been obvious to one skilled in the art at the time of the invention to implement the

method of Engstrand in computer code. The motivation would be to have a convenient way to implement the Engstrand system.

Regarding claim 23, means for identifying at least 1 forward channel operable for wireless communication to a subscriber access unit is disclosed in column 3, lines 36-37. Means for identifying at least one reverse channel operable for wireless communication to a base station processor is disclosed in column 3, lines 41-42. Means for scheduling the forward channel for wireless communication according to a forward cycle is disclosed in column 2, lines 32-45. Means for scheduling the reverse channel for wireless communication according to a reverse cycle, wherein the forward cycle and the reverse cycle are out of phase is disclosed in column 2, lines 32-45 (the blocking functionality acts to schedule the reverse channel). Claim 22 further specifies that all of these means are implemented in program code, which is missing from Engstrand. However, Turner discloses in column 5, line 56, and column 6, lines 5-14, computers being used to schedule packets in a wireless network. It would have been obvious to one skilled in the art at the time of the invention to implement the method of Engstrand in computer program code. The motivation would be to have a convenient way to implement the Engstrand system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia L Davis whose telephone number is (571) 272-3117. The examiner can normally be reached on 8:30 to 6, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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